

WE CLAIM:

1. A peptide comprising an amino acid sequence with more than 80% homology with the amino acid sequence listed as SEQ ID NO:4.
2. A peptide according to claim 1, having the amino acid sequence of SEQ ID NO:4.
3. A peptide according to claim 1, having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:5.
4. A peptide according to claim 3 having the amino acid sequence of SEQ ID NO:5.
5. A peptide according to claim 1, having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:6.
6. A peptide according to claim 5, having the amino acid sequence of SEQ ID NO:6.
7. A peptide according to claim 3, having CC chemokine receptor activity or receptor activity for at least the HIV-1 and/or HIV-2 viruses or an active portion of said HIV viruses.
8. A peptide according to claim 7, which is activated at least by the MIP-1 $\beta$  chemokine at a concentration less than or equal to 10 Nm, or by the MIP-1 $\alpha$  or by RANTES chemokines but not activated by the MCP-1, MCP-2, MCP-3, IL-8 or GRO $\alpha$  chemokines.
9. A peptide according to claim 5, having no CC chemokine receptor or no receptor activity for HIV-1 and/or HIV-2 viruses or an active portion of said HIV viruses.

10. A nucleic acid molecule having more than 80% homology with one of the nucleic acid sequences listed as SEQ ID NO:1, SEQ ID NO:2 and SEQ ID NO:3.

11. A nucleic acid molecule according to claim 10, which has at least a nucleic acid sequence listed as SEQ ID NO:1, SEQ ID NO:2 or SEQ ID NO:3.

12. A vector comprising the nucleic acid molecule according to claim 10.

13. A cell comprising the vector according to claim 12.

14. A cell according to claim 13, being the cell CHO-K1-PEFIN HCCR5-1/16.

15. A nucleic acid probe comprising a nucleic acid molecule of at least 15 nucleotides capable of specifically hybridizing with an unique sequence included within the nucleic acid molecule according to claim 10.

16. An antisense oligonucleotide having a sequence capable of specifically hybridizing to a nucleic acid molecule of claim 10 to prevent translation of said nucleic acid molecule.

17. A ligand capable of binding to the peptide according to claim 3 with the proviso that said ligand is not selected from the group consisting of the MIP-1 $\beta$ , MIP-1 $\alpha$  and RANTES CC-chemokines, HIV viruses and an active portion of said HIV viruses.

18. An anti-ligand capable of competitively inhibiting the binding of a ligand selected from the group consisting of the MIP-1 $\beta$ , MIP-1 $\alpha$  and RANTES CC-chemokines, HIV viruses and an active portion of said HIV viruses to a peptide having at least an amino acid sequence

having more than 80% homology with the amino acid sequence listed as SEQ ID NO:4 or SEQ ID NO:5 or SEQ ID NO:6.

19. Cell line AchCCR5-SAB1A7.

20. A pharmaceutical composition comprising the antisense oligonucleotide according to claim 16 in an amount effective to decrease activity of a peptide having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:6 by passing through a cell membrane and binding specifically with mRNA encoding said peptide in the cell so as to prevent its translation, and a pharmaceutically acceptable carrier capable of passing through a cell membrane.

21. A pharmaceutical composition which comprises the anti-ligand according to claim 18 in an amount effective to block binding of a ligand to a peptide having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:4, and a pharmaceutically acceptable carrier.

22. A method for determining whether a ligand can specifically bind to a peptide according to claim 3; which comprises the steps of:

transfecting a cell with a vector expressing the nucleic acid molecule encoding said peptide with the ligand under conditions permitting binding of said ligand to said peptide;  
and

detecting the presence of any ligand bound specifically to said peptide, thereby determining whether the ligand binds specifically to said peptide.

23. A diagnostic and/or dosage device comprising:

a peptide having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:4, SEQ ID NO:5, or SEQ ID NO:6,

a nucleic acid molecule having at least a nucleotide sequence having more than 80% homology with the nucleotide sequence listed as SEQ ID NO:1, SEQ ID NO:2, or SEQ ID NO:3,

a ligand capable of binding to a peptide having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:5, with the proviso that said ligand is not selected from the group consisting of the MIP-1 $\beta$ , MIP-1 $\alpha$  and RANTES CC-chemokines, HIV viruses and an active portion of said HIV viruses, and

an anti-ligand capable of competitively inhibiting the binding of a ligand selected from the group consisting of the MIP-1 $\beta$ , MIP-1 $\alpha$  and RANTES CC-chemokines, HIV viruses and an active portion of said HIV viruses to a peptide having at least an amino acid sequence having more than 80% homology with the amino acid sequence listed as SEQ ID NO:4 or SEQ ID NO:5 or SEQ ID NO:6.

24. A diagnostic and/or dosage device according to claim 23, which further comprises reactants for the detection and/or dosage of antigens, antibodies or nucleic acid sequences through a method selected from the group consisting of in situ hybridization, hybridization or recognition by marked specific antibodies, methods on filter, on a solid support, in solution, in

sandwich on gel, by Dot blot hybridization, by Northern blot hybridization, by Southern blot hybridization, by isotopic or non-isotopic labeling, by a technique of cold probes, by genetic amplification, particularly PCR, LCR, NASBA or CPR, by a double immunodiffusion, by a counter-immunoelectrophoresis, by haemagglutination and a combination of the forgoing.

25. A method of treatment of a disease selected from the group consisting of inflammatory diseases, including rheumatoid arthritis, glomerulonephritis, asthma, idiopathic pulmonary fibrosis and psoriasis, viral infections including infections by Human Immunodeficiency Viruses 1 and 2 (HIV-1 and 2), cancer including leukaemia, atherosclerosis and auto-immune disorders, comprising administering to a patient having said disease a pharmaceutical composition according to claim 20 in an amount effective to decrease activity of a peptide associated with said disease.

26. A method for determining whether a ligand can specifically bind to a peptide according to Claim 3, which comprises the steps of:

preparing a cell extract from cells transfected with a vector expressing the nucleic acid molecule encoding said peptide;

isolating a membrane fraction from the cell extract;

contacting the ligand with the membrane fraction under conditions permitting binding of the ligand to said peptide and optionally under conditions permitting the activation of a functional peptide response; and

detecting by means of a bio-assay an increase in the peptide activity, thereby determining whether the compound is capable of specifically binding to said peptide.

27. A method of treatment of a disease selected from the group consisting of inflammatory diseases, including rheumatoid arthritis, glomerulonephritis, asthma, idiopathic pulmonary fibrosis and psoriasis, viral infections including infections by Human Immunodeficiency Viruses 1 and 2 (HIV- 1 and 2), cancer including leukaemia, atherosclerosis, and auto-immune disorders, comprising administering to a patient having said disease a pharmaceutical composition according to Claim 21 in an amount effective to block binding of a ligand to a peptide associated with said disease.